Conventional High-Speed Rail Investment Opportunities

Introduction

This report contains a program of improvements to the existing railroad infrastructure that would provide feeder services and/or complement the very high-speed service and introduce a quality of service previously unavailable to travelers in the corridors in which it will operate.

These infrastructure improvements would essentially constitute a new passenger rail product for Californians. This product will be distinguished by speeds above 100 miles per hour where feasible, substantially improved reliability to ensure schedule adherence, and attention to intermodal opportunities (especially at airports and in urban centers). Because the improvements are on existing railroad facilities, commuter operators, Amtrak, and the freight railroad operators should all benefit. Indeed, the result of these proposed investments would be an improvement in the overall quality of conventional passenger rail services in California.

As referenced, these improvements would be on infrastructure the Authority does not own and operate, and for which it does not have statutory, policy or financial responsibility. The corridors reviewed are those that include state-supported intercity passenger rail service, which the Legislature funds annually. The Legislature did foresee in the Authority's enabling legislation the need for the very-high-speed train system to integrate with the existing rail and transit systems. This work satisfies that legislative mandate. Furthermore, this report is consistent with the Authority's system integration policies, adopted at the February 1999 meeting.

The owners and operators of the rail services in the corridors identified in the system integration policies provided the list of improvements necessary to achieve 100-mph-service, the capital costs of those improvements, ridership estimates, and operating costs. The Authority's consultants, Arthur Bauer & Associates and Katz, Okitsu & Associates, extrapolated the ridership and operating cost estimates to 2015.

Given that neither the infrastructure nor the operation of the services on the corridors that would benefit from these improvements are the responsibility of the Authority, staff recommends that the Authority consider this work advisory to the Legislature. As a result, these improvements should not be included in the Authority's financing plan. These improvements should be referenced in the business plan as opportunities for investment that will both provide a feeder system to the very-high-speed mainline system as well as a new level of passenger rail service for California.

Decision Criteria for High-Speed Conventional Passenger Rail Service

The Authority adopted policy guidelines at its February 1999 meeting that staff and consultants were to use when developing the high-speed passenger rail plan. In summation, these policies regarding service characteristics were as follows:

- Capable of operating at speeds of 100 miles per hour or greater
- Partially grade separated
- Travel times better than the automobile between city pairs
- Limited to corridors where it is more cost effective than very high-speed service or where a very high-speed line is not feasible
- Limited to corridors that are already receiving state funding for operations

In addition to these policies, the staff and consultants' analysis was governed by the following principles:

- High-speed service to be built on existing passenger rail services
- Service will use existing facilities or improved facilities in existing rights-of-way
- Service will be generally operated over the same facilities as existing passenger rail services and freight service
- Capital to improve infrastructure must be matched by operating funds to pay for resulting increases in service
- Improvements should not hinder the performance of the services provided by others using the tracks
- Connectivity to other transportation services should be maximized

The policies adopted by the Authority and the above principles served as criteria for identifying high-speed passenger rail service improvements.

Adopted Corridors for High-Speed Intercity Passenger Rail Service

After reviewing the Phase I report[1], the Authority adopted the following state-supported intercity rail corridors:

- Colfax-Sacramento-Martinez-Oakland-San Jose-Gilroy
- San Luis Obispo-Santa Barbara-Oxnard-Los Angeles-Santa Ana-San Diego
- San Luis Obispo-Santa Barbara-Oxnard-Los Angeles-San Bernardino/Riverside-Palm Springs
- San Bernardino/Riverside-Orange County-San Diego
- Interim San Joaquin Valley service

These corridors were used to prepare the initial capital program and patronage estimates. Staff used the results to prepare the inventory of investment opportunities in the corridor discussed in this report.

Challenges to Program Implementation

Another substantive reason for regarding this work as advisory is that the complex institutional structure in California to implement conventional passenger rail services precludes any one entity from implementing a capital improvement program. The corridors staff and consultants have identified for investment opportunities are generally owned by the private freight railroads. Caltrans, Amtrak, commuter rail agencies, and special corridor agencies are involved in funding and operating passenger rail services in these corridors. The Federal Railroad Administration (FRA) is responsible for regulating the operation of both freight and passenger rail service on these corridors.

Assuming that capital funding were available to invest in these corridors, several challenges to program implementation would exist that would necessitate lengthy negotiations between the institutions identified above. Among these challenges are:

- Gaining FRA approval to increase operating speeds beyond 79 mph and 90 mph in California. This will entail also achieving agreements on grade separations/crossings, cab signalization, and buff strength of passenger vehicles. The capital costs assumed some grade separations/crossings but certainly not as many as may ultimately be

[1] Phase I Report-California High-speed Rail System Plan by Arthur Bauer & Associates, Inc. for the California High-speed Rail Authority, January, 1999, Sacramento, CA.

required. Cab signals will be required to operate at those speeds. While the passenger trains will necessarily include cab signals (which is an expense not identified in these improvements), considerable debate remains over whether the freight railroads will need all of its locomotives so equipped. And, buff strength is an important safety issue that the FRA has tended review on a state-by-state, case-by-case basis.

- Achieving freight railroad cooperation will entail all of the issues related to gaining FRA approval, adding another layer of players to the discussion. In addition, adding more passenger trains will require a review of existing operating agreements between passenger rail services and the freight railroads. Both the Burlington-Northern Santa Fe and the Union Pacific have indicated that they expect to increase significantly freight movements in California, especially when the Alameda Corridor project is completed. Increased passenger service and increased freight movements will create new dispatching challenges for all operators.

- Integrating passenger rail operators' concerns is critical. The passenger rail operators will clearly be at the table in gaining the approval of the FRA to increase operating speeds and negotiating agreements with the freight railroads. The passenger operators will also face significant issues related to financing increased operations and cost sharing for maintenance and operation of the infrastructure. The operating scenarios identified later in the report touch on some but not all of these cost issues.

The Legislature and the Governor will also be key to addressing these challenges successfully. Not only will the Legislature and the Governor need to support the capital required, they will also need to support increases in funds to cover anticipated operating subsidies.

Overview of Conventional High-Speed Passenger Rail Investment Opportunities

The discussion of a potential high-speed passenger rail investment program will focus on the following topics: corridors, capital program, time savings, ridership, operating costs, and intermodal opportunities.

Corridors

Last month the Authority's board adopted a VHS Passenger Rail System for California that is expected to be in operation by 2015. The following changes to the high-speed corridors would complement the adopted VHS corridor:

1. The San Luis Obispo-Santa Barbara-Oxnard-Los Angeles-San Bernardino/Riverside-Palm Springs Corridor no longer needs to be included in the high-speed program, since that increment of service from Los Angeles to Riverside will now be in the VHS Corridor. Investing in the conventional railroad facilities in that corridor would be expensive and redundant. It is unlikely that many travelers would use high-speed service since it would be operating parallel to the VHS line.

2. The San Bernardino/Riverside-Orange County-San Diego Corridor need not be included in the high-speed program. This is because the San Bernardino-Riverside to San Diego via the I-15 Corridor is in the VHS system and that service from the Inland Empire to San Diego would be a superior service when compared to the high-speed alternative via the LOSSAN Corridor.

3. The Sacramento-Colfax segment should be dropped from the corridor designation. This is because no capital investments for high-speed service are proposed east of Sacramento because of the relatively low ridership for that segment and because of the complexity of the possible investments. This does not mean that high-speed trains will not operate east of Sacramento; it only means that the trains will not operate in a high-speed mode.

4. A segment from Gilroy to Salinas should be added to the Sacramento-Gilroy Corridor. This is because it provides potential access to the international destination resorts in Monterey County. Moreover, the Valley Transit Authority operating in Santa Clara County and Monterey County is expected to extend some commuter service from Gilroy to Salinas, thus creating a local commitment to improved passenger rail service in that segment.

5. Interim San Joaquin Valley service should be provided and remain as a high-speed Corridor. However, the investments proposed for that service should not include signalization improvements that would allow the trains to operate over 90 mph in the corridor. The inclusion of the interim service, including existing feeder bus services, will allow for a program of improvements that will support the continued

development of the San Joaquin Valley market. Because of the VHS Corridors adopted by the board, staff believes that unless the state, Amtrak or the local agencies in the San Joaquin Valley continue conventional rail service, the very-high-speed service, when instituted, is likely to displace the conventional service.

The board asked that staff give consideration to providing service in the gap between San Luis Obispo and Gilroy. This was reviewed and a patronage forecast was made for travel between the San Francisco Bay Area and Los Angeles. The travel forecast estimated that in 2020 the number of passengers using the service annually would range from a low of 257,000 to a high of 595,000 persons. This patronage is in addition to the passengers that would use the intercity and commuter rail services between San Luis Obispo and Los Angeles Union Station and between Salinas and the Bay Area. Moreover, the cost of improving the Coast Corridor from San Luis Obispo to the area of Salinas is estimated to be over $200 million.

It should be pointed out that the improvements being suggested between San Luis Obispo and Los Angeles, and between Salinas and San Jose will directly benefit the interregional Coast Corridor service and are drawn from a report that evaluated the investment requirements of the entire corridor.[2] Caltrans, the Coast Rail Coordinating Council and Amtrak all are interested in pursing funding for improvements, including that segment not suggested for inclusion in the Authority's program. While the state, county and local governments, and Amtrak are committed to improving the entire Coast Corridor, state-sponsored funding for service along the entire length of the corridor has not yet been provided. Therefore, it is premature to include the segment of the corridor between San Luis Obispo and Salinas in the high-speed rail program. Representatives of agencies in the corridor have indicated that operational funding is likely to be available in the next fiscal year. Staff believes that when state funding is provided the corridor, the Authority may wish to revisit the corridor for possible consideration in future conventional high-speed rail improvement programs.

As a result, the statewide network of high-speed passenger rail service the Legislature should consider should include the following corridors:

- Sacramento-Martinez-Oakland-San-Jose-Gilroy-Salinas
- San Luis Obispo-Santa Barbara-Oxnard-Los Angeles-Santa Ana-San Diego
- Interim San Joaquin Valley service

These corridors are depicted in Exhibit 1 on page 7.

[2] Southern Pacific Coast Route Infrastructure Assessment, Task 4 Report, by HDR Engineering, Inc. for the Caltrans Rail Program and the Coast Rail Coordinating Council, May 22, 1996.

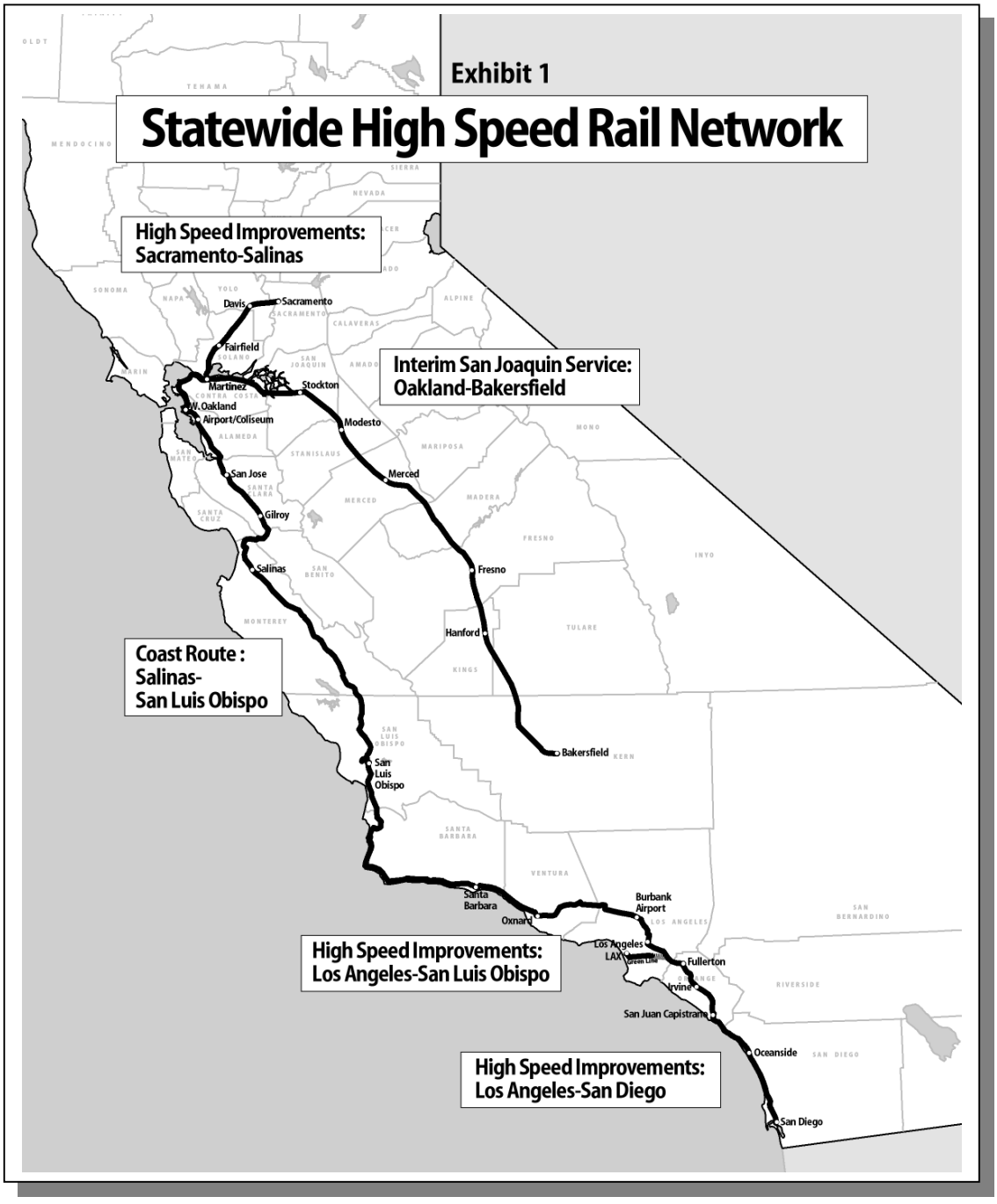


Exhibit 1
Statewide High Speed Rail Network
High Speed Improvements: Sacramento-Salinas
Interim San Joaquin Service: Oakland-Bakersfield
Coast Route : Salinas- San Luis Obispo
High Speed Improvements: Los Angeles-San Luis Obispo
High Speed Improvements: Los Angeles-San Diego
Davis
Sacramento
Fairfield
Martinez
Stockton
W. Oakland
Airport/Coliseum
Modesto
San Jose
Merced
Gilroy
Salinas
Fresno
Hanford
Bakersfield
San Luis Obispo
Santa Barbara
Oxnard
Burbank Airport
Los Angeles LAX
Fullerton
Irvine
San Juan Capistrano
Oceanside
San Diego

Capital Program

The total capital cost for improvements consistent with the board's policies is estimated to be $2.929 billion. Exhibit 2 summarizes the investments by corridor and by type of investment. The cost estimate includes identified investments in track and signals, grade crossings, grade separations and specialty items such as tunnels, station improvements and special studies.

Exhibit 2

High-Speed Rail Capital Program

	Sacramento-Salinas	LAUS-SLO	LAUS-San Diego	Interim San Joaquin	Total
Corridor Length	193 miles	222 miles	129 miles	322 miles	
Track & Signal	$529	$168	$559	$275	$1,531
Grade Crossings	68	49	46	71	234
Grade Separations	160	100	160	100	520
Stations			147	20	167
Parking	34	12	15	16	77
Rolling Stock	30	30	75	15	150
Other	5	24	221		250
Total	$826	$383	$1,223	$497	$2,929

Source: Arthur Bauer & Assoc., Inc.

Specifically, the improvements are intended to allow conventional passenger rail trains to travel in segments of the corridors at speeds in excess of 100 miles per hour and to also enhance service reliability. Special investments include $24 million for tunnel improvements between Chatsworth and Simi Valley and $174 million for the Rose Canyon tunnel and station in San Diego. Another improvement in the Los Angeles-San Diego Corridor is $42 million for bluff stabilization and bridge replacements. An important improvement for Los Angeles Union Station is $147 million for the run through tracks that will improve overall operating efficiencies at the Station.

Between Oakland and San Jose, the Mulford Branch has been identified as the preferred alignment. This alignment will allow for faster connecting service between Oakland and the East Bay communities and the Very High-speed trains operating out of Diridon Station in San Jose.

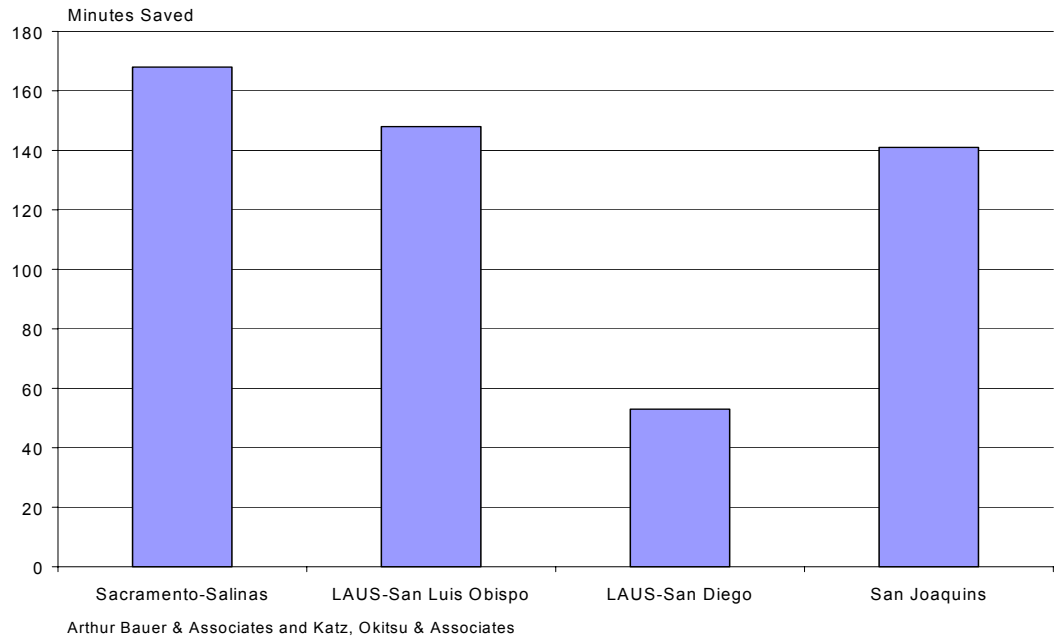
In the cost projection for the Sacramento-Salinas Corridor, $5 million is included for undertaking the studies necessary to determine the location and configuration of an intermodal facility in Oakland. At least two options are under discussion, both adjacent to BART: a West Oakland facility and a facility in the vicinity of Jack London Square. The Los Angeles-San Diego Corridor has a $5 million cost item for analyzing connecting the Green Line directly to the LOSSAN Corridor in the vicinity of Norwalk in order to allow intercity trains to directly serve LAX.

Time Savings

Exhibit 3 identifies the time savings for each corridor that can be expected from the investments. The most significant savings are to be found in the Sacramento-Salinas Corridor followed by the Los Angeles-San Luis Obispo Corridor and the Interim San Joaquin Service. The time savings estimates are based on comparing the anticipated operating results of the investments to the current published schedules of the operators. The estimates do not reflect reductions in train delays associated with the investments. On the Los Angeles –San Diego Corridor, for example, the delays due to freight traffic converging on the tracks that access the Los Angeles and Long Beach ports would be reduced significantly with the addition of a fourth track from Fullerton to Redondo

Exhibit 3

Minutes Saved by Corridor Due to Capital Investments

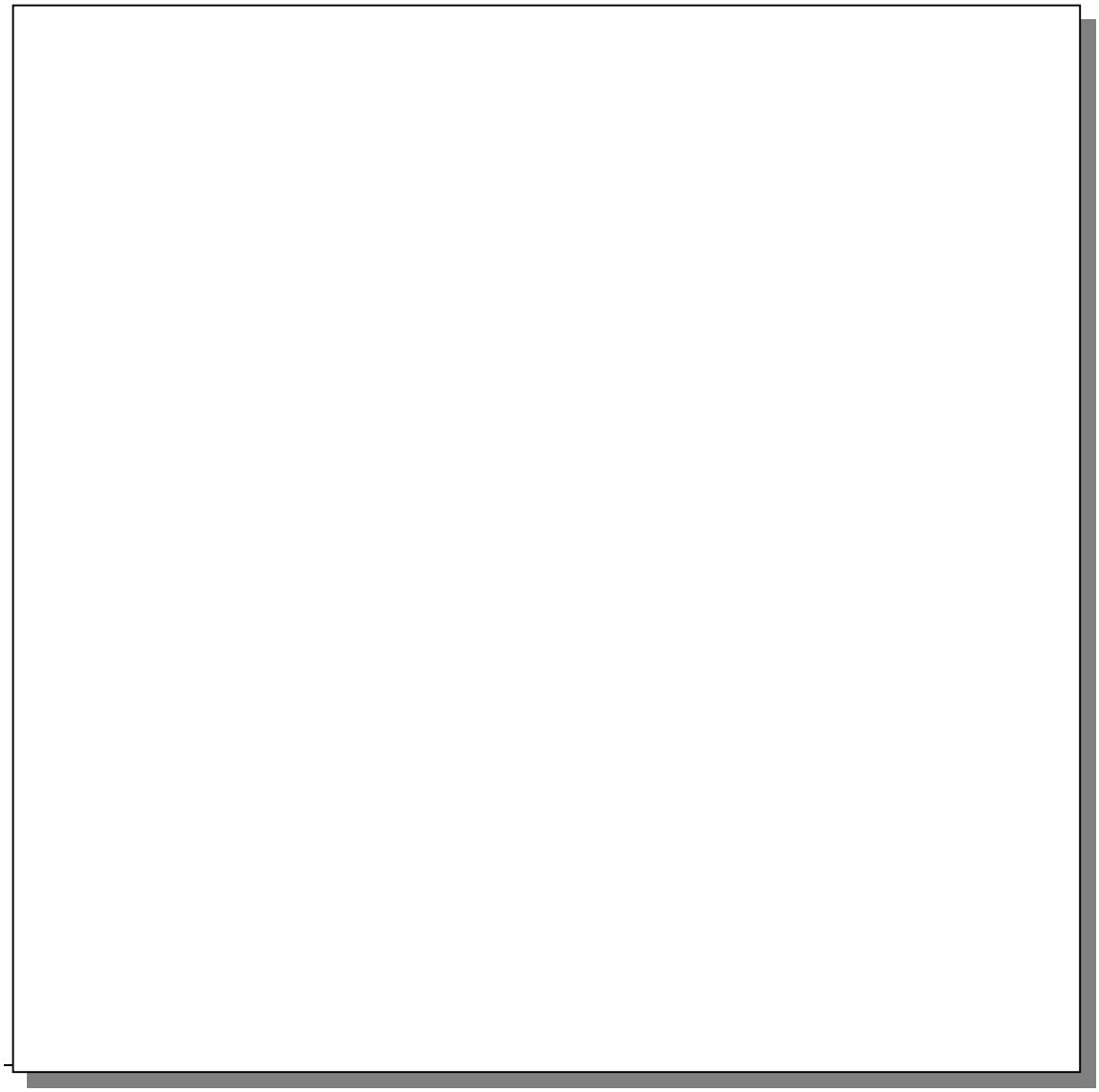


Arthur Bauer & Associates and Katz, Okitsu & Associates

Junction (where the Alameda Corridor intersects the railroad system). The beneficial consequences of such an investment are not reflected in the exhibit.

Patronage Estimate

The capital program provides the basis for the forecast of annual ridership displayed in Exhibit 4. The starting point for the forecast is the actual 1998 patronage reported by each of the operators—commuter rail and intercity—in each of the corridors.[3] The patronage for the entire San Luis Obispo-Los Angeles-San Diego Corridor is displayed, as well as the patronage for the segments between Los Angeles and San Luis Obispo, and between Los Angeles and San Diego.



[3] The Amtrak national route trains were not included in the patronage calculations. These include the Sunset Limited, the Texas Eagle, the California Zephyr and the Coast Starlight north of San Francisco.

All of the trains will be operating at faster speeds as a result of the investment program, and in certain segments of the corridors trains will travel in excess of 100 miles per hour. Some of the trains, because of frequent stops, are unlikely to exceed that speed. However, all trains will benefit from the capital improvements because operating speeds will be increased and reliability will be improved.

In Exhibit 4, the column headed *2015 Baseline* reflects the 1998 patronage figures adjusted to account ***only*** for population increases. The number of passenger trains operating in each corridor is assumed to be at the 1998 level.

A second forecast was made with the number trains operating held constant at the 1998 level, but including the impact of the program of capital investments. The results of this forecast are displayed in the column headed *2015 High-speed Improvements*.

The last column, labeled *2015 High-speed Improvements with Additional Trains*, is a forecast of the range of riders that can be expected in the corridors if the number of trains is increased to the maximum anticipated by operators as part of the 1998 State Transportation Improvement Plan (STIP) process, and they are operated at faster speeds. A more detailed analysis of the patronage resulting from additional trains is depicted in Exhibit 5.

Exhibit 5 identifies the low and high forecasts associated with more trains and faster trains operating in the corridor. The impact of the improvements in combination with more trains operating faster is determined by comparing the patronage to the 2015 Baseline. As stated earlier, the 2015 Baseline is the patronage that results from population growth between 1998 and 2015, with the same number of trains operating as in 1998.

The forecasting shows that in each of the corridors, the more trains put in service operating at faster speeds, the greater the patronage. For example, increasing the service from Sacramento to Salinas over the Baseline by only two additional trains results in a 53 percent increase in patronage. When the trains are increased to 20 per day, a doubling of the number of trains operating in 1998, ridership is forecasted to increase by 136 percent to 1.7 million annual patrons.

In Southern California, the patronage between Los Angeles and San Diego, with only seven additional trains above the Baseline and the capital improvements, will increase total passengers by 28 percent to 6 million annually. Should the number of trains be increased to 82, 23 trains above the Baseline, ridership will grow to nearly 8 million persons, a 70 percent increase above the Baseline ridership.

The impact of the capital improvements and faster service has a similar affect on ridership on the Interim San Joaquin service. By increasing the number of trains to 12, three over the Baseline, ridership increases by 23 percent. When the number of trains is increased to 16, ridership would increase to 1.7 million persons, a 74 percent increase.

The VHS rail corridors adopted by the Authority will have a modest impact on ridership between San Diego and Los Angeles, and Sacramento and San Jose. The reason for this, in the case of the Southern California corridor, is that travel times between San Diego and Los Angeles via the I-15 Corridor and then west to Los Angeles from

Exhibit 5

2015 Patronage Forecast by Corridor with Additional Trains and Faster Trains

	2015 Baseline	Low Patronage Estimate		High Patronage Estimate	
	Number of Trains / Patrons	Number of Trains	Patronage	Number of Trains	Patronage
Sacramento-Bay Area Salinas	10 / 719,000	12	1,079,000	20	1,719,000
San Luis Obispo-Los Angeles-San Diego	77 / 6,165,000	86	7,927,000	106	10,504,000
LAUS-San Diego	59 / 4,685,000	66	6,025,000	82	7,983,000
LAUS-San Luis Obispo	26 / 1,470,000	28	1,902,000	34	2,521,000
Interim San Joaquin Service	10 / 977,000	12	1,227,000	16	1,738,000
Coast Corridor-Los Angeles/Bay Area	2 / 158,000	4	256,000	8	593,000

Source: Katz Okitsu & Assoc.

Riverside will be superior to traveling from San Diego to Los Angeles by High-speed trains in the I-5 or LOSSAN Corridor. About 14 percent of the trips in that corridor are through trips, either beginning or ending at the terminal points, San Diego and Los Angeles. Similarly, Very High-speed service between Sacramento and San Jose via the San Joaquin Valley and Pacheco Pass will also have very little impact on the High-speed conventional trains' ridership as only about 12 percent of the trips begin and end at the terminal points.

It is unlikely that all the patrons in this category of travel will switch to the VHS service. For some, the fare on the VHS service may be too high. In addition, some passengers may have purchased tickets to connecting Amtrak trains. Others may be travelling with

passengers who will be getting on or off at intermediate stations on the conventional trains. Lastly, the VHS service may actually increase ridership on the high-speed lines. For example, travelers may take the high-speed service to get from Orange County to Los Angeles Union Station to catch the very-high-speed service. Similarly, travelers in the East Bay may ride the high-speed service to San Jose. In any case, it is likely that about half to two-thirds of the rail service patrons will be diverted to the VHS trains.

Operating Costs Estimates

The operating subsidy for each potential service was calculated using the incremental passenger revenues and operating expenses between the 2015 baseline forecast and the 2015 forecast with faster speeds and more trains. For the Sacramento-Bay Area-Salinas service, the incremental passenger revenues in year 2015 is forecasted to be about $7.2 million. The incremental operating cost is forecasted to be about $12.4 million, leading to an annual operating subsidy of $5.2 million. The fare recovery ratio is forecasted to be 58 percent.

For the Interim San Joaquin service, the incremental passenger revenues in year 2015 is estimated to be $9.7 million. The incremental operating cost is forecasted to be about $18.3 million, leading to an annual operating subsidy of $8.6 million. The fare recovery ratio is estimated to be 53 percent. For the San Luis Obispo-Los Angeles service, the incremental passenger revenue in year 2015 is forecasted to be about $10.4 million. The incremental operating cost is estimated to be $14.0 million, leading to an annual operating subsidy of about $3.6 million. The fare recovery ratio is forecasted to be 75 percent. The incremental passenger revenue in year 2015 for the Los Angeles-San Diego service is forecasted to be about $32.5 million. The incremental operating cost is estimated to be $44.2 million, leading to an annual operating subsidy of $11.7 million. The fare recovery ratio would be about 74 percent.

Intermodal Opportunities

There are several intermodal development opportunities on the Sacramento-Salinas Corridor. The redevelopment of the 240-acre former Southern Pacific facility adjacent to the Amtrak station on the perimeter of downtown Sacramento offers a significant intermodal opportunity. Sacramento's plans include extending a light rail line into the property, and possibly locating an intercity bus terminal at the facility. In addition, the facility is adjacent to I-5 and access to the highway will be improved. Sacramento is in the process of clarifying its land use plans for the site.

Oakland offers at least two intermodal opportunities. One would be in West Oakland where the railroad tracks go under the BART line. A station at this vicinity with a convenient interface with BART would place a traveler only one BART stop from either downtown Oakland or downtown San Francisco. A second option being considered by Oakland would be to grade separate the railroad tracks on their existing right-of-way through Jack London Square and provide a connection to BART at the Lake Merritt

Station. Oakland is unable to declare a priority until a thorough analysis of all the options has been completed. Oakland is unique because of its proximity to the East Bay market. It will likely serve travelers who will chose to use the VHS service by connecting to either San Francisco or San Jose. Consequently, a well-situated and designed intermodal facility in Oakland is important to the success of both rail service programs. It is for this reason that $5 million is included in the program for Oakland to finalize the location of its intermodal terminal.

A third intermodal opportunity is located at the BART Coliseum Station. BART and the Port of Oakland have already obtained half of the estimated $130 million necessary to construct the Airport Connector. The Connector is a component of an expansion project that includes both a new terminal, scheduled for completion in 2005, and a second runway that is to be built by 2010. At the completion of these improvements, the airport is expected to serve 22 million passengers. That will be a substantial increase over today's 9.5 million annual passengers.

The Diridon Station in San Jose will also be an important intermodal facility. This facility is located on the west side of San Jose's central business district and is adjacent to its arena/convention center. Currently using this facility are the Caltrain, ACE, the Capitols and the Coast Starlight. In addition, the Valley Transit Authority uses the facility as a major transfer location. It is expected that the Vasona light rail line that will travel west into Silicon Valley will pass adjacent to the Station on its way into downtown San Jose.

There are several intermodal opportunities in the Los Angeles-San Diego Corridor. Los Angeles Union Station is at the center of passenger rail services in southern California. Today, approximately 35,000 transit patrons pass through the station daily. The Red Line subway serves LAUS and an extensive local bus network radiates from the station. In addition, Metrolink's commuter service, the intercity services operated by Amtrak and Caltrans sponsored corridor trains use LAUS. Once it is constructed, the Pasadena Blue will also directly serve LAUS.

Union Station's private owners have extensive development entitlements for the former railroad yards surrounding the station. Two major office buildings have already been constructed adjacent to the station and other construction projects are planned. This will only enhance the station area as a destination and contribute to greater utilization of rail services.

High-speed passenger rail service presents the opportunity to explore a new intermodal connection between Los Angeles International Airport (LAX) and the Los Angeles-San Diego service via a connection with the Green Line at Norwalk. Currently, the Green Line begins about two miles west of the Norwalk-Santa Fe Springs intermodal facility on the LOSSAN Corridor and it terminates south of LAX. The expansion plans for LAX include an extension of the Green Line along the southern boundary of LAX to a new entrance at the west end of the airport. At that location passengers would transfer to a people mover for distribution among the airport's terminals. The Green Line extension is

viewed as mitigation for surface traffic, especially traffic generated by employees at the airport.

A regional high-speed passenger service could offer the opportunity to reduce commuter flights originating within southern California and terminating at LAX. For example, over 90 flights per day originate from San Diego serving LAX. Most of these travelers transfer to long distance flights. Similar short flights also originate from John Wayne Airport in Orange County and from other airports in the region. Interestingly, while about 35 percent of flight operations at LAX are commuter flights of this type, these planes account for only 3 percent of total passengers. Although these short flights contribute to air space congestion, they add only very modestly to the passenger count. Regional High-speed trains could assist in reducing air congestion by offering direct service to LAX over the Green Line. This would require that the Green Line be connected to the LOSSAN Corridor either at Norwalk or another location, and that it be re-engineered to accommodate the corridor trains.

There are also intermodal opportunities in Orange County and San Diego counties. In Orange County the intermodal opportunities will be defined during planning for the mid county rail corridor. Oceanside already has an intermodal center used by Metrolink, the Coaster and the LOSSAN Corridor service sponsored by Caltrans. In addition, North County Transit's buses are routed through the transit center to meet the trains. The planned rail line to Escondido is also expected to use the center. The corridor ends at San Diego's Santa Fe depot, which is served on site as well as immediately across the street by the San Diego Trolley. In addition, there is bus service to the Depot including dedicated, frequent service to Lindbergh Field. Should the main passenger terminals at Lindbergh Field be re-located from the present Harbor Drive entrance to an entrance on Pacific Coast Highway, then the airport entrance would be across the street from the Corridor and a direct and convenient connection with the airport would be possible.

Between Los Angeles and San Luis Obispo, Metrolink and Amtrak trains serve the Burbank Airport. All Ventura County bound Metrolink trains stop at the airport station. In addition, Metrolink operates dedicated trains from Los Angeles Union Station to the Burbank Airport to fill the gaps in the Ventura Line schedule. Moreover, patrons on the Palmdale line can gain access by taking a dedicated van from the downtown Burbank Metrolink station to the Burbank Airport. In addition, the Oxnard intermodal facility is served by local public transit buses and may be a terminus for a planned rail line from Ventura County to Santa Clarita.